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SAN FRANCISCO DISTRICT

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Regulatory Branch

333 Market Street

San Francisco, CA 94105-2197

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1. INTRODUCTION: Mr. Alex Bergtraun of Congregation Beth El 2301 Vine Street Berkeley, California 94708, ((510)841-1836) has applied for a Department of the Army permit to stabilize the bank of Codornices Creek between Oxford Ave and Spruce Street, in the City of Berkeley, Alameda County, California. See map 0. This application is being processed pursuant to the provisions of Section 404 of the Clean Water Act (33 U.S.C. 1344).

2. PROJECT DESCRIPTION: The Codornices Creek bank stabilization project is being proposed by the Congregation Beth El to stabilize a deeply incised and unstable channel, and to restore fish passage (or, at least the possibility of passage) through the reach and to allow for an extension of passage upstream through the currently culverted reach of the creek, if the upstream culvert is eventually removed.

The applicant has proposed the following activities within Corps of Engineers jurisdiction (activities below the Ordinary High Water mark):

1. Construction of a step-pool channel with a mean slope of 7.4 percent, consisting of a boulder and woody material cascade installed atop clean, compacted fill held in-place by geotextile fabric curtains. Please see Figures 1-4, 6.
2. A slight realignment of the channel to the north to reduce the steepness of the south bank and to avoid loss of the cluster of bay trees in the lower portion of the reach.
3. Provision for a storm drain outfall from the overbank project (synagogue construction) area, which will be laid into a regraded slope

and will daylight within the native material revetment. See Figure 5. The storm drain inlet/catch basin will be fitted with an in-line filter to trap sediments and oils/greases.

The applicant has also proposed the following activities not regulated by the Corps of Engineers:

1. A native material revetment extending to the 100-year flood stage and interplanted with post tree plantings (cottonwood, willow and dogwood) at roughly the bankfull stage and other tree cuttings (e.g., willow) or seedlings within and atop the revetment.
2. Grading of channel banks to provide alternating 4:1 planting terraces and to reduce the steepness of excessively steep sections of the banks adjacent to the current incised channel.
3. Additional native revegetation of the graded channel banks which are now largely covered with non-native invasives, including eucalyptus (to be removed during construction), while protecting two existing stands of native riparian trees (cluster of bays and one maple).

The applicant states that Codornices Creek may provide potential habitat for Central California Coast steelhead, cited by the National Marine Fisheries Service's during its review of the project area, although the reach itself was identified as a significant existing barrier to fish passage.

Erosion Control: Pre- and post- construction stormwater management and pollution control measures would be implemented, including:

1. Installation of an upstream diversion at the Spruce Street culvert inlet, with piped discharge of summer season base flow around construction area.
2. Construction occurring during the dry summer/fall season (prior to October 15).
3. Extensive re-vegetation of graded channel banks with native grasses, shrubs, and trees.
4. Installation of broadcast straw on exposed, seeded slopes and in over-bank materials storage areas prior to the onset of winter season rains.
5. Installation and maintenance of an in-line stormwater filtration system in the principal driveway catch basin serving the new synagogue facility. Note that aside from the use of unit pavers in the access driveway, the tight clay soils on-site and other use constraints/prohibitions placed on the site by the City of Berkeley (via environmental review process) precluded the use of biofilters and other stormwater treatment measures.

Channel Changes: The current channel reach begins with a vertical 5-foot drop at the Spruce Street culvert outlet into a plunge pool, the downstream channel maintains a gradient of 3.5 percent to the Oxford Street culvert inlet. The step-pool channel would eliminate the 5-foot water drop and would therefore maintain a steeper mean gradient of 7.4 percent. At the approximate bankfull (i.e., 2-year) discharge, the proposed new channel flow cross-sectional area would be reduced from the current 6.6 square foot to 5.6 square foot, while the width-depth ratio would be reduced from 10.6 to 5.6. Note that the existing channel has widened in response to incision and bank instability and thus cannot serve as a reference reach for the current step-pool channel design, which would maintain a steeper gradient. The bulk of the existing bank vegetation (incised channel itself is devoid of any vegetation, save some ivy) is primarily non-

native (ivy, grasses and eucalyptus) and this would be replaced by a dense planting scheme including native riparian grasses, shrubs, and trees.

Changes in drainage patterns and impacts to onsite and downstream waterbodies: The applicant proposes that the slight change in alignment will not affect downstream waterways, as the tie-in to the Oxford Street culvert remains unchanged. Otherwise the existing on-site drainage pattern would remain unchanged. The applicant proposes that the project would have a slight beneficial effect on local groundwater levels, as the cascade would induce a local rise in the groundwater table via an increase in the local channel grade.

Access Roads and Staging Areas: The site access is via an existing asphalt driveway off Oxford Street. The project would be constructed using a 50,000 lb. Bucket excavator with a live thumb to handle large boulders and long woody elements. The excavator would access the creek via the south bank by construction of a ramp, which would be graded out, seeded/re-vegetated and protected (i.e., with erosion control- straw) as the final bank grading is completed. Materials storage would be segregated along the existing access driveway to the south of the creek.

Temporary Water Diversions: A temporary sandbag cofferdam would be installed within the Spruce Street culvert and a gravity diversion pipe would be installed to divert base flow around the active work area. Due to the breadth of the work area, the pipe would have to be relocated once or twice during the construction to accommodate the progress of the construction. A second sandbag coffer dam would be constructed immediately upstream of the Oxford Street culvert inlet to trap fine sediments that may be stirred up within the saturated bed sediments during construction. Both of these temporary structures would be removed once the channel/bank grading is completed.

Construction Methods: Work would progress in the downstream direction from the Spruce Street culvert outlet. Some minor grouting of the interface between the concrete culvert and the boulder cascade would be necessary to protect the culvert structure (which is currently being undermined by waterfall erosion) and to speed the saturation of the underlying fill material. The fill used as base material underlying the upper portion of the cascade would consist of non-engineered fill (i.e., the fill would contain a fine fraction to protect the cascade structure against severe deformation due to liquefaction during an earthquake, particularly in the vicinity of the existing plunge pool where design fill depths are greatest). Within the lower portion of the reach where fill depths are minor, the fill would be alluvial gravel and cobble with some coarse sands. Geotextile curtains would be installed at intervals within the fill to protect against loss of the fill due to porewater pressures and piping processes. Woody elements, including logs and rootwads would be inlaid within the cascade to add diversity and additional habitat (food sources) for aquatic species and wildlife. See Figure 1. The boulder-heavy native material revetments flanking the cascade would also contain some woody elements, as well as inter-plantings of tree cuttings and/or seedlings. The filled subgrade would be installed first, followed by concurrently advancing cascade and revetment construction. Post plantings using cottonwood, willow, and dogwood would be installed at specified locations at approximately the bankfull stage during the cascade construction. The augured planting holes would be backfilled with a mud slurry after the posts are set. Post depths would be roughly 5 feet in depth, with above ground extensions of the posts to heights of 1-2 feet above the finished cascade grade.

3. CORPS OF ENGINEERS JURISDICTION:

The length of the project area is approximately 118 feet. The Corps exerts Section 404 jurisdiction over the fill and activities which occur below the Ordinary High Water mark of Codornices Creek. The amount of fill proposed by the applicant is approximately

134.5 cubic yards, including 37.8 cubic yards of alluvial fill (gravel/cobble), 74.7 cubic yards of 1.5-3.0 foot boulders, and 22.0 cubic yards of rootwads/logs.

4. STATE APPROVALS: Under Section 401 of the Clean Water Act (33 U.S.C. Section 1341), an applicant for a Corps permit must obtain a State water quality certification or waiver before a Corps permit may be issued. The applicant has provided the Corps with evidence that he has submitted a valid request for State water quality certification to the San Francisco Bay Regional Water Quality Board. No Corps permit will be granted until the applicant obtains the required certification or waiver. A waiver shall be explicit, or it will be deemed to have occurred if the State fails or refuses to act on a valid request for certification within 60 days after the receipt of a valid request, unless the District Engineer determines a shorter or longer period is reasonable for the State to act.

Those parties concerned with any water quality issues that may be associated with this project should write to the Executive Officer, California Regional Water Quality Control Board, San Francisco Bay Region, 1515 Clay Street, Suite 1400, Oakland, California 94612, by the close of the comment period of this Public Notice.

5. ENVIRONMENTAL ASSESSMENT: The Corps of Engineers will assess the environmental impacts of the action proposed in accordance with the requirements of the National Environmental Policy Act of 1969 (Public Law 91-190), and pursuant to Council on Environmental Quality's Regulations, 40 CFR 1500-1508, and Corps of Engineers' Regulations, 33 CFR 230 and 325, Appendix B. Unless otherwise stated, the Environmental Assessment describes only the impacts (direct, indirect, and cumulative) resulting from activities within the jurisdiction of the Corps of Engineers. The documents used in the preparation of this Environmental Assessment are on file in the

Regulatory Branch, Corps of Engineers, 333 Market Street, San Francisco, California.

Erosion Rate: The applicant has proposed to alter the substrate of the creekbed. This should have a positive affect of slowing the stream flow of the Creek. The erosion rate of the Creek, at present is high. Adding a boulder lining to the Creek should have a positive impact on the erosion rate of the Creek.

Water Quality: Water quality should improve due to the altering of the Creek bed proposed by the applicant and the resulting decrease in erosion rate.

Endangered Species: Steelhead (*Onchorynchus sp*) are known to occur within Codornices Creek and are listed as threatened under the Endangered Species Act. The Corps will discuss fisheries issues with the National Marine Fisheries Service as required by Section 7 of the Endangered Species Act. According to the applicant, there are three major barriers to fish downstream of the proposed project area.

- 500-foot culvert from Milvia Street to Henry Street
- 6-foot waterfall downstream of Shattuck Street
- Metal mesh fencing (2-inch mesh) upstream of Shattuck Avenue

In addition, the 5-foot drop from the culvert within the project site to the splash pool beneath has been identified as a barrier to the movement of fish upstream from the site. According to the applicant, if there are trout in the upper reaches of Codornices Creek, they are probably resident trout.

Historic/Cultural Resources: A Corps of Engineers Archaeologist will be requested to conduct a cultural resources assessment of the

permit area, involving review of published and unpublished data on file with city, State, and Federal agencies. If, based upon assessment results, a field investigation of the permit area is warranted, and cultural properties listed or eligible for listing on the National Register of Historic Places are identified during the inspection, the Corps of Engineers will coordinate with the State Historic Preservation Officer to take into account any project effects on such properties.

6. EVALUATION OF ALTERNATIVES:

Evaluation of this activity's impact on the public interest will also include application of the guidelines promulgated by the Administrator of the Environmental Protection Agency under Section 404(b)(1) of the Clean Water Act, 33 U.S.C. Section 1344(b).

7. PUBLIC INTEREST EVALUATION: The decision whether to issue a permit will be based on an evaluation of the probable impacts, including cumulative impacts, of the proposed activity and its intended use on the public interest. Evaluation of the probable impacts, which the proposed activity may have on the public interest, requires a careful weighing of all those factors, become relevant in each particular case. The benefits, which reasonably may be expected to accrue from the proposal must be balanced against its reasonably foreseeable detriments. The decision whether to authorize a proposal, and if so the conditions under which it will be allowed to occur, are therefore determined by the outcome of the general balancing process. That decision will reflect the national concern for both protection and utilization of important resources. All factors which may be relevant to the proposal must be considered including the cumulative effects thereof. Among those are conservation, economics, aesthetics, general environmental concerns, wetlands, cultural values, fish and wildlife values, flood hazards, floodplain values, land use, navigation, shore erosion

and accretion, recreation, water supply and conservation, water quality, energy needs, safety, food and fiber production, mineral needs, considerations of property ownership, and, in general, the needs and welfare of the people.

8. CONSIDERATION OF COMMENTS: The Corps of Engineers is soliciting comments from the public, Federal, State and local agencies and officials, Indian Tribes, and other interested parties in order to consider and evaluate the impacts of this proposed activity. Any comments received will be considered by the Corps of Engineers to determine whether to issue, modify, condition or deny a permit for this proposal. To make this decision, comments are used to assess impacts on endangered species, historic properties, water quality, general environmental effects, and the other public interest factors listed above. Comments are used in the preparation of an Environmental Assessment and/or an Environmental Impact Statement pursuant to the National Environmental Policy Act. Comments are also used to determine the need for a public hearing and to determine the overall public interest of the proposed activity.

9. SUBMISSION OF COMMENTS: Interested parties may submit in writing any comments concerning this activity. Comments should include the applicant's name, the number, and the date of this notice and should be forwarded so as to reach this office within the comment period specified on page one of this Notice. Comments should be sent to the Regulatory Branch. It is Corps policy to forward any such comments, which include objections to the applicant for resolution or rebuttal. Any person may also request, in writing, within the comment period of this Notice that a public hearing be held to consider this application. Requests for public hearings shall state, with particularity, the reasons for holding a public hearing. Additional details may be obtained by contacting the applicant whose address is indicated in the first paragraph of this Notice, or by contacting Corrie Veenstra of our office at telephone 415-977-8717 or E-mail: cveenstra@spd.usace.army.mil. Details on any changes of a minor nature which are made in the final permit action will be provided on request.